



# Texas Early Hearing Detection and Intervention Program

Annual Report for Calendar Year 2011



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### — Stakeholder Review Group —

We would like to thank the following participants for their valuable input and suggestions:

- **Melba Addison** - Methodist Dallas Medical Center
- **Kathy De La Pena** - Early Hearing Detection and Intervention (EHDI)  
Consortium in Rio Grande Valley
- **Alicia Favila** - Region 10, Educational Service Center
- **Carol Gaskamp** - University of Texas, School of Nursing
- **Jean Origer** - DARS-ECI Program
- **Jennifer Wickesberg, Laura Baysinger, Christine Schafer, and  
Kate David** - Center for Hearing and Speech



### Mission Statement

The goal of early hearing detection and intervention is to identify hearing loss and provide intervention services as early as possible in an effort to prevent speech, language, and other delays so that newborns, infants, and children reach their maximum potential.

## TEHDI Program Legislative Background

- HB 714, 76th Texas Legislature, 1999, established the Texas Newborn Hearing Screening (NBHS) Program by adding Texas Health and Safety Code, Chapter 47.
  - a. The statute provided for the implementation of the state's newborn hearing screening, tracking, and intervention program, which became effective May 11, 2000.
  - b. In Texas, the NBHS Program is referred to as the TEHDI Program.
- Texas Health and Safety Code, Chapter 47 can be found at:  
<http://www.statutes.legis.state.tx.us/Docs/HS/htm/HS.47.htm>

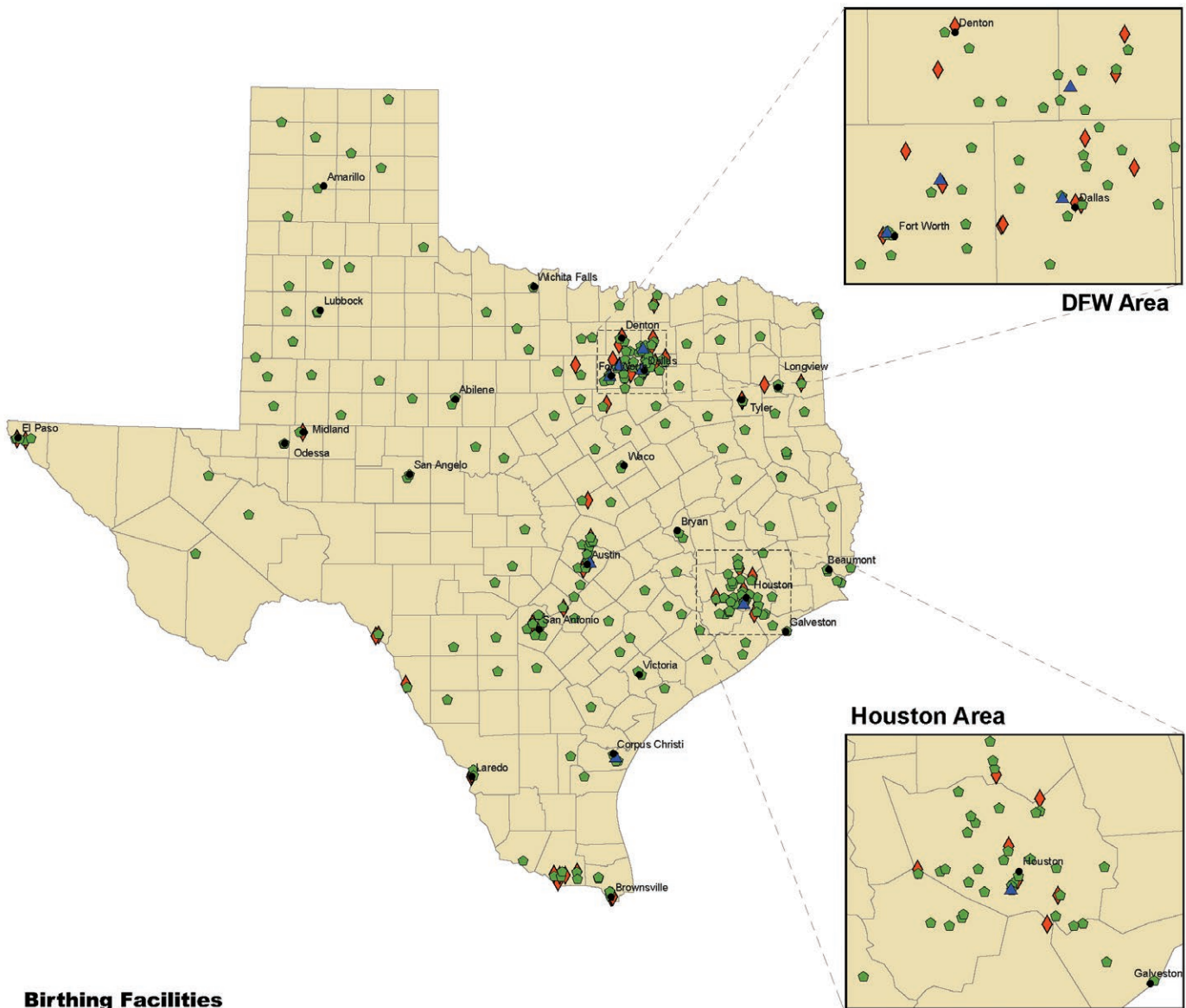
## Legislative Spotlight - HB 411 Overview

- HB 411, 82nd Texas Legislature, 2011, amended Texas Health and Safety Code, Chapter 47 to include, but not limited to:
  - Changing to an opt-out requirement for hearing screening.
  - Requiring birthing facilities to perform hearing screenings, either directly or through a transfer agreement, on all newborns, unless the parent declines.
  - Expanding the definition of a birthing facility to include
    - ⊙ licensed hospitals that offer obstetrical services;
    - ⊙ children's hospitals;
    - ⊙ licensed birthing centers; and
    - ⊙ state-operated facilities that offer obstetrical services.
  - Reporting on follow-up information through the TEHDI MIS.
- Changes in law made by HB 411 became effective January 1, 2012.



### Birthing Facilities

The map below illustrates the distribution of birthing facilities throughout Texas, which include licensed hospitals that offer obstetrical services, children's hospitals, licensed birthing centers, and state-operated facilities that offer obstetrical services. Military hospitals are not included under state statutory authority.



Map Created by: DSHS Center for Health Statistics, GIS, Oct. 2011

## TEHDI Program Funding and Goals

The TEHDI Program receives funds from the state general revenue and federal Title V. In addition, a CDC cooperative agreement and HRSA grant provide funding.

- **CDC - Project Years 2011-2016 - Goals for CY 2011:**

**Goal One:** Identify options for enhancements to the current TEHDI MIS.

**Goal Two:** Increase the collection and reporting of individualized demographic and age-specific data.

**Goal Three:** Improve the quality and completeness of data provided by certified birthing facilities.

**Goal Four:** Disseminate data used in planning, along with related analyses to shape the ongoing development of the TEHDI MIS enhancements.

**Goal Five:** Collaborate with potential reporting sources to develop formalized data collection and sharing agreements.

- **HRSA Project Years 2011-2014 - Goals for CY 2011:**

**Goal One:** Implement educational initiatives for health care providers.

**Goal Two:** Develop a care coordination system that enhances the TEHDI continuum of care.

**Goal Three:** Develop a comprehensive TEHDI Program educational website.

**Goal Four:** Use the Model for Improvement framework outlined in the article entitled *"Improving Follow-up to Newborn Hearing Screening: A Learning-Collaborative Experience"*<sup>1</sup>, to develop a quality improvement initiative for the TEHDI Program.

**Goal Five:** Develop a plan to participate in the national Early Childhood Hearing Outreach (ECHO) initiative in collaboration with the Texas Head Start State Collaboration Office.

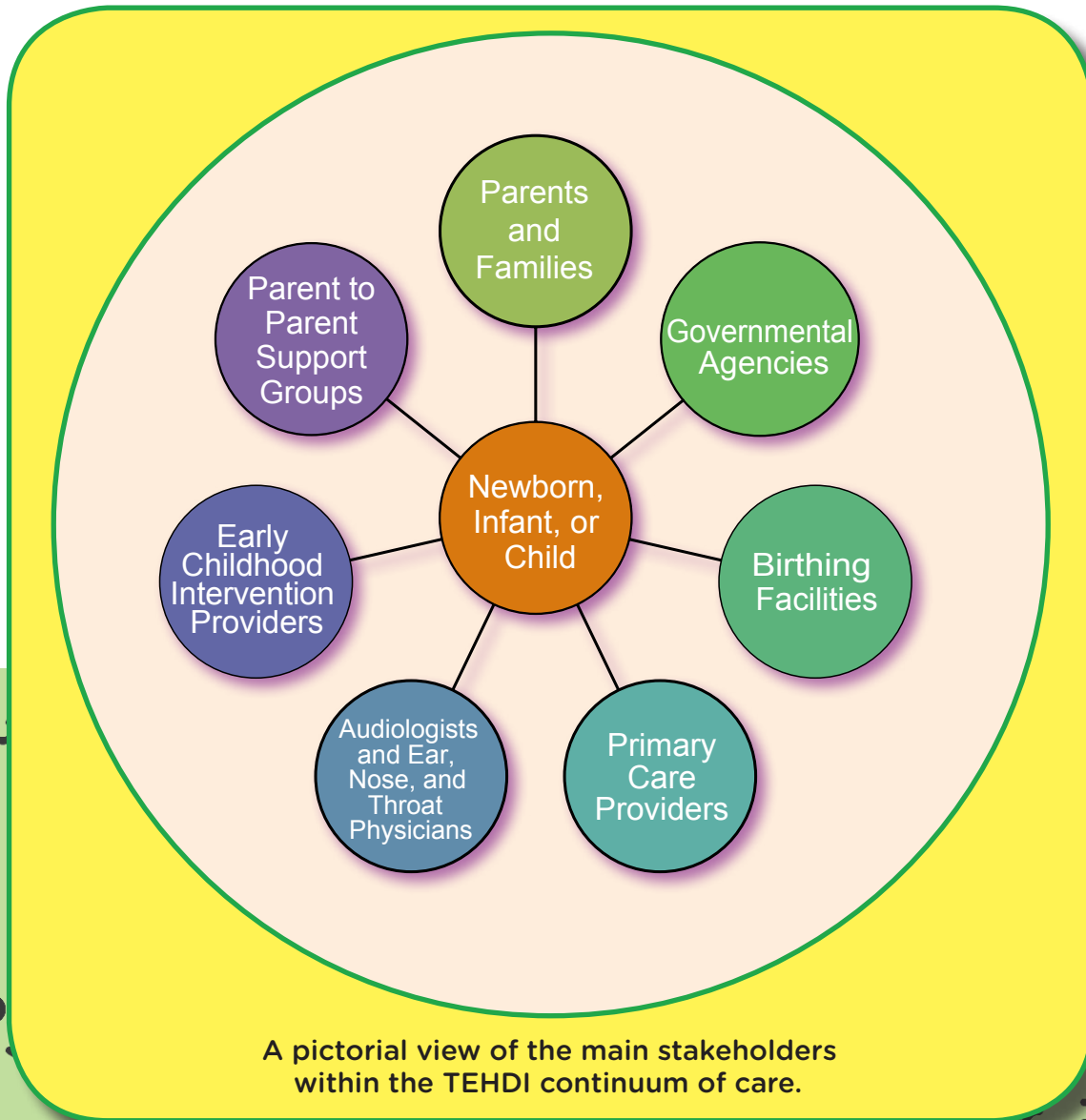
<sup>1</sup>Russ, S., Hanna, D., DesGeorges, J., Foresman, I., Improving Follow-up to Newborn Hearing Screening: A Learning-Collaborative: [http://www.pediatrics.org/cgi/content/full/126/Supplement\\_1/S59](http://www.pediatrics.org/cgi/content/full/126/Supplement_1/S59) (January 2013).



### TEHDI Continuum of Care

The TEHDI continuum of care is a term used to encompass the stakeholders involved in the screening, diagnosis, and intervention processes. The continuum of care and important timeframes are depicted in the 1-3-6 Month Practitioner's Guide and can be found here:

<https://secure.thstepsproducts.com/05-12258.htm>.





## Stakeholder Spotlight - DARS-ECI Program

- “There is a growing body of literature indicating that when identification and intervention occur before six months of age for newborn infants who are deaf or hard of hearing, the infants perform as much as 20 to 40 percentile points higher on school-related measures (vocabulary, articulation, intelligibility, social adjustment, and behavior).”<sup>2</sup>
- In Texas, early intervention services are provided by the DARS-ECI Program through regional providers.
- A referral to DARS-ECI is required when there is a suspected or confirmed hearing loss, this occurs after a “did not pass” result on an outpatient screen or after a confirmed diagnosis of hearing loss by an audiologist.
- A weekly review by the TEHDI MIS contractor identifies newborns, infants, and children in need of a referral to ECI.
- Referrals are made to a regional ECI provider for any newborn, infant, or child that meets the following criteria:
  - A “did not pass” result on the outpatient screen; or
  - A confirmed diagnosis of hearing loss.
- If a newborn, infant, or child’s record meets the criteria for a referral, the record must also contain the following information in order to make the referral valid and useful to the regional ECI provider:
  - Proof of parental consent to share information with the state; and
  - Contact information for newborn, infant, or child’s family.



This table shows the number of referrals to ECI providers made using the criteria and requirements above in 2009, 2010, and 2011. Weekly reviews and outreach efforts by the TEHDI Program and TEHDI MIS staff have helped to significantly increase the number of referrals over the last year.

Year of Birth	Number of Referrals
2009	701
2010	672
2011	899

Data Source: TEHDI MIS

<sup>2</sup>Joint Commission on Infant Hearing, Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs. <http://pediatrics.aappublications.org> (June 2012).



## TEHDI MIS

The TEHDI Program contracts for the use of a web-based system, called TEHDI MIS, for the state's EHDI program. Data is entered and tracked by the system. The TEHDI MIS is designed to be used by hearing screeners and the professionals in the TEHDI continuum of care to provide follow-up services and coordination of care for newborns, infants, and children through age three. Professionals in the TEHDI continuum of care that use TEHDI MIS include:

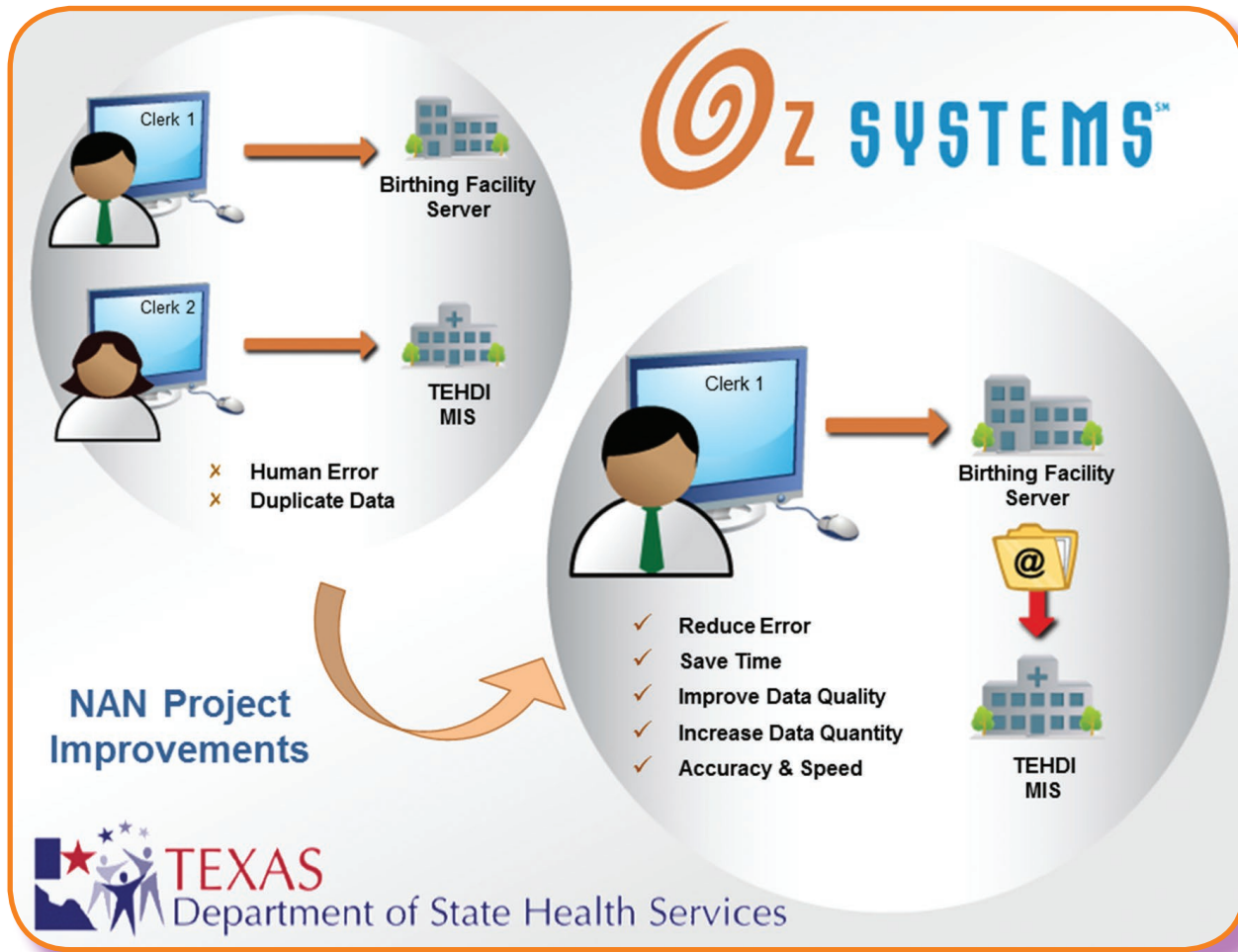
- Birthing Facility Providers
- Outpatient Screening Providers
- Audiologists
- Ear, Nose, and Throat Physicians
- Primary Care Providers
- Early Childhood Intervention Providers
- Public Health Employees



## TEHDI MIS Spotlight: NAN Project

The TEHDI Program worked with the TEHDI MIS contractor, OZ Systems, to develop and implement a more efficient way for birthing facilities to report hearing screening data.

- The NAN project is an opportunity for birthing facility staff to eliminate duplicate data entry, improve data quality, and increase the quantity of data reported to the TEHDI Program. The NAN project:
  - Uses a nationally recognized Health Level Seven message standard called admission, discharge, and transfer (ADT);
  - Provides a minimum of 22 demographic data elements previously entered manually by birthing facility staff; and
  - Connects TEHDI MIS directly with the electronic health record (EHR) of a newborn.
- The staff will upload and link hearing screening results to the demographic data elements imported into the newborn's record.
- The project began in 2011 with the development of the NAN interface tools that allow testing, validation, and receipt of the ADT messages from birthing facility EHR systems.
- The final step during 2011 was to develop a rollout plan for implementation.
- The implementation phase of the project began in mid-2012.

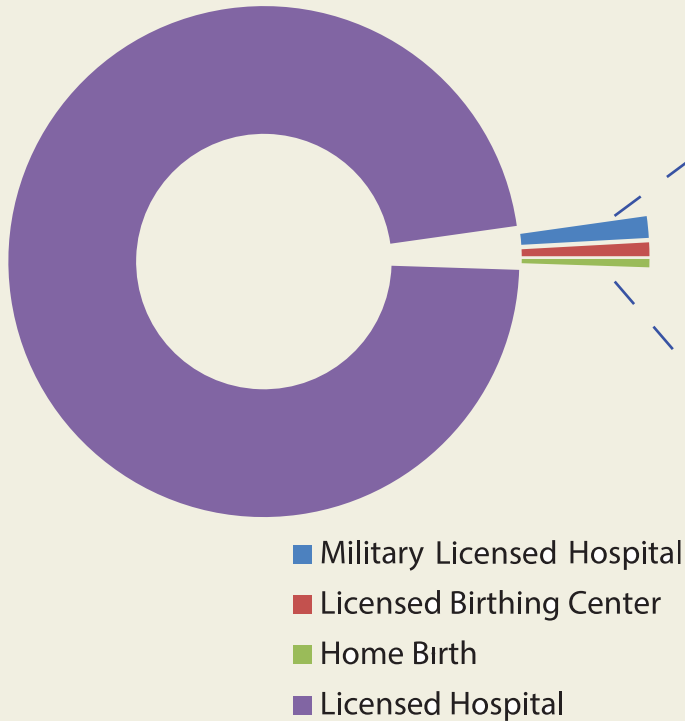


The NAN project uses the birthing facility's EHR to transfer admission, discharge, and update demographic data directly into TEHDI MIS.

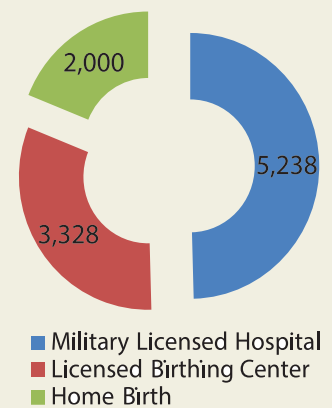


**CY 2011 Statistics:  
Birth Distribution by Location**

**Total Births in CY 2011**



**Total Out of Licensed  
Hospital Births  
in CY 2011**



Data Source:  
DSHS Vital Statistics Unit

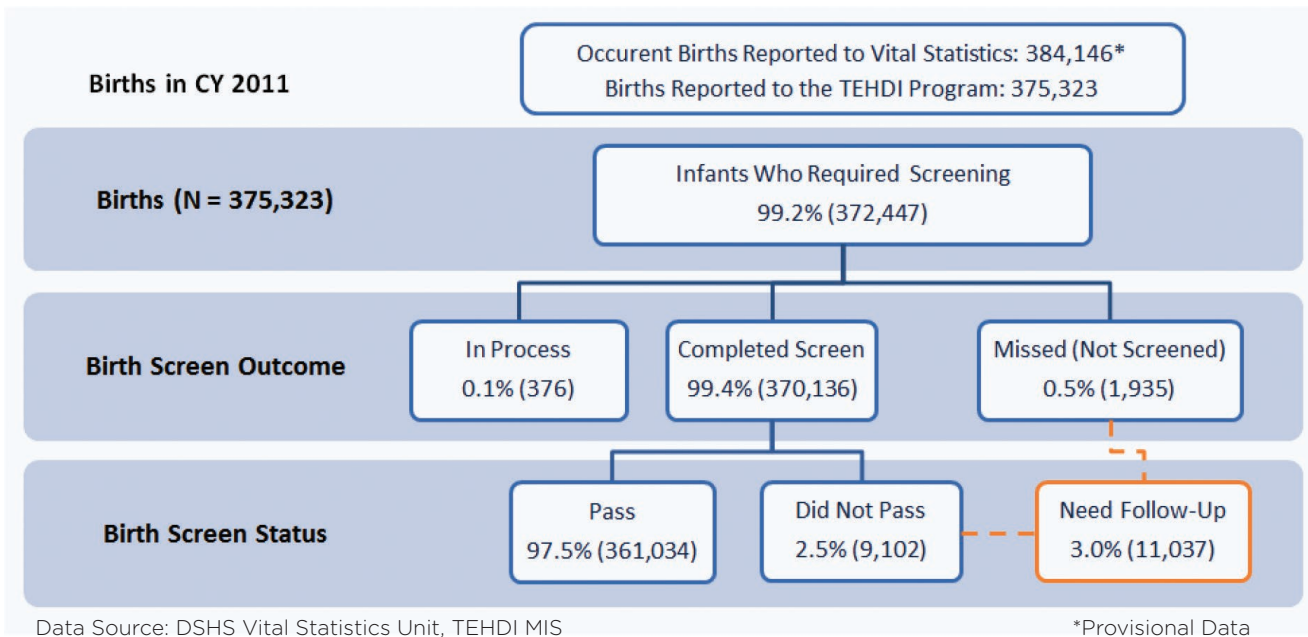


**Ninety-seven percent (373,580 babies) of all births in Texas occurred in a licensed hospital during CY 2011. The other three percent (10,566 babies) were in licensed birthing centers, military facilities, or at home. Total births equal to 384,146, as reported by the DSHS Vital Statistics Unit.**



## Birth Screen Outcome and Screening Status

The flowchart depicts the outcome of infants screened for hearing loss in facilities that are reported in the TEHDI MIS. The discrepancy in births reported by the DSHS Vital Statistics Unit and the TEHDI Program are due to home births or facilities that did not report in the TEHDI MIS. The variation in births reported to the TEHDI Program and the number of infants who required screening accounts for instances where the screening is not required; such as infants who passed away shortly after birth and infants whose parents opt out of the hearing screening.

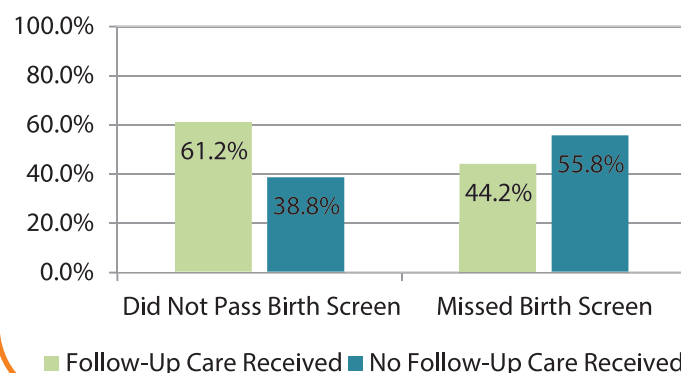


## Follow-Up Care Based On Birth Screen Outcome

The following demonstrates the correlation between birth screen outcome and the receipt of follow-up care, including outpatient screening and/or diagnostic evaluation.

- If the newborn or infant did not pass the hearing screening at birth, he/she is more likely to receive follow-up care compared to a newborn or infant who missed the hearing screening at birth.
- Follow-up care received after a missed birth screen increased by 6.3% over the CY 2010 figures, which can be found in the CY 2010 report: <http://www.dshs.state.tx.us/tehdi/TEHDI-Annual-Report.aspx>
- There is an ongoing discrepancy between follow-up care received after a missed birth screen and a did not pass result at birth. This supports the need for continued outreach educational efforts to emphasize the importance of screening a newborn/infant at birth.

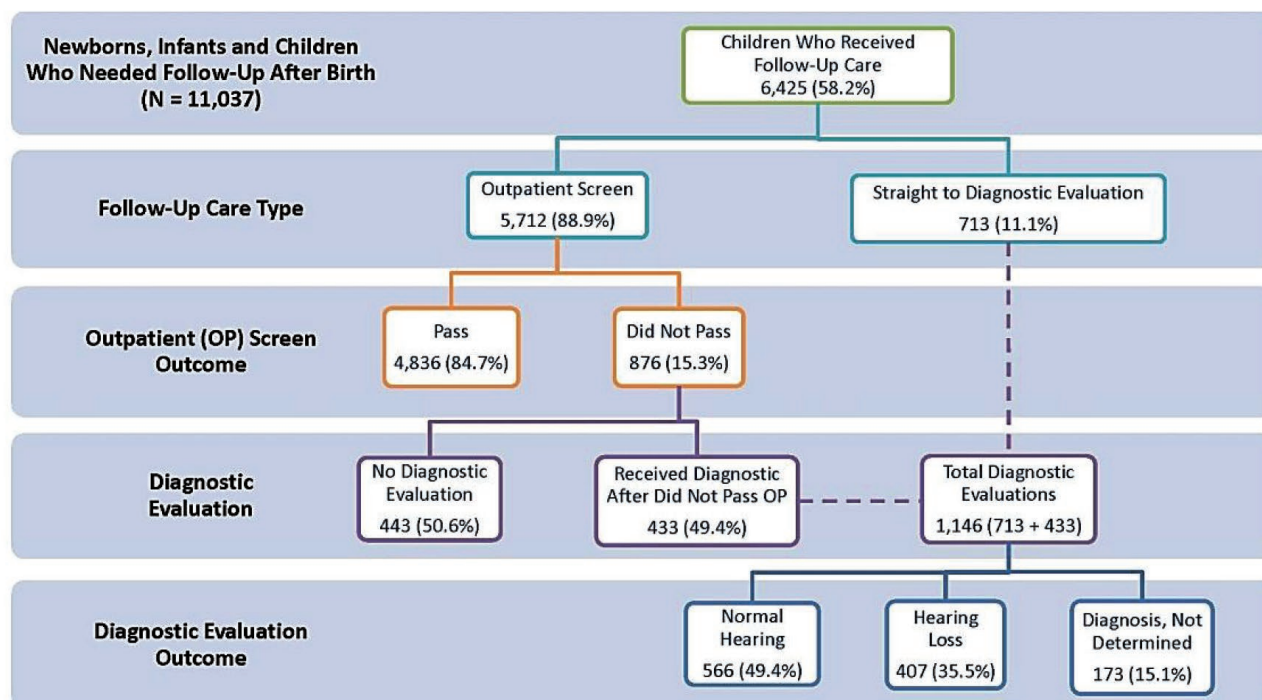
## Follow-Up Care Based On Birth Screen Outcome



Data Source: TEHDI MIS

## Follow-Up Outcomes for CY 2011

The chart below illustrates the number of newborns or infants who received follow-up care and/or a diagnosis of hearing loss through TEHDI MIS.



Data Source: TEHDI MIS

## Efforts to Reduce Loss to Follow-Up:

If left undetected, hearing loss can negatively impact speech and language acquisition; academic achievement; and social and emotional development. The term loss to follow-up is defined two ways.

1. True loss to follow-up means the infant did not receive the necessary follow-up services.
2. Loss to follow-up can also mean that the infant may have received follow-up services; however, the services were not reported in the TEHDI MIS (referred to as loss to documentation).

The births reported to the TEHDI MIS show a significant loss to follow-up as seen in the charts above. It is unclear whether the loss is due to lack of follow-up services or loss to documentation. Initiatives in the TEHDI Program have a primary or secondary goal of reducing the loss to follow-up rate in Texas for both causes by:

- Improving parent and provider understanding of the importance of hearing screening and early diagnosis;
- Increasing the amount of data in TEHDI MIS to better identify newborns, infants, and children who need further follow-up care; and
- Improving the quality of the data in TEHDI MIS to successfully connect providers with parents and newborns, infants, and children.

## Efforts to Reduce Loss to Follow-Up Spotlight - TEHDI Outreach Education

- One of the activities of the TEHDI Program is outreach education to providers and stakeholders to increase the understanding of their role in the TEHDI continuum of care.
- In CY 2010, the TEHDI Program developed a comprehensive curriculum targeting providers and stakeholders throughout the TEHDI continuum of care.
- The following eight modules were developed and are available for outreach education:
  1. TEHDI Overview
  2. TEHDI Prenatal
  3. TEHDI Universal Newborn Hearing Screening (UNHS)
  4. Medical Home
  5. Outpatient Screening
  6. Audiology & Diagnostic Evaluation
  7. Ear, Nose, and Throat Physicians
  8. Early Intervention
- In CY 2011, the TEHDI Program delivered the modules by:
  - Partnering with Texas Education Agency and contracting with the University of Texas - School of Nursing to provide peer-to-peer trainings to health care providers;
  - Providing free online versions of the Prenatal and UNHS modules at [www.tehditraining.com/Prenatal](http://www.tehditraining.com/Prenatal) and [www.tehditraining.com/UNHS](http://www.tehditraining.com/UNHS).

TEHDI  
Texas Early Hearing  
Detection and Intervention

## UNHS Outreach Education

Universal Newborn Hearing Screening Outreach Education

The TEHDI Process

Implementing a Successful UNHS Program

Communicating Results to Parents

Conclusion

Post Test

Please enter your credentials to get credit for this course.

First and Last Name

Email

Continue

TEXAS  
Department of State Health Services

TEHDI Website

UNHS Training Script

A screenshot of the UNHS webinar log in page at [www.tehditraining.com/UNHS](http://www.tehditraining.com/UNHS).



### Conferences in CY 2011

The TEHDI Program staff attended, presented, or exhibited at the following conferences and events:

Name of Conference	Month(s) in 2011	Location of Conference
Texas Health Steps (THSteps) Provider Expo	January	Austin, Texas
EHDI Conference	February	Atlanta, Georgia
Texas Speech-Language-Hearing Association Convention	March	Houston, Texas
Texas Woman, Infant, and Children Conference	June	Austin, Texas
Public Health Information Network and CDC Assessment Initiative Conference	August	Atlanta, Georgia
Texas Pediatric Society Annual Meeting	September	Sugarland, Texas
Texas Academy of Audiology	November	Dallas, Texas



**Resources:****TEHDI Program Websites**

- a. DSHS TEHDI Program: [www.dshs.state.tx.us/tehdi](http://www.dshs.state.tx.us/tehdi)
- b. TEHDI MIS: [www.tehdi.com](http://www.tehdi.com)
- c. TEHDI Program Educational Materials:  
<https://secure.thstepsproducts.com/default.asp#newborn>

**EHDI Background Websites**

- a. National Center for Hearing Assessment & Management (NCHAM): [www.infanthearing.org](http://www.infanthearing.org)
- b. Texas EHDI: [www.txehdi.org](http://www.txehdi.org); and [www.communitiesofsupport.org](http://www.communitiesofsupport.org)

**Training Websites**

- a. NCHAM - Newborn Hearing Screening Training Curriculum (Videos):  
[www.infanthearing.org/nhstc\\_dvd/streaming.html](http://www.infanthearing.org/nhstc_dvd/streaming.html)
- b. TEHDI Program UNHS Webinar: [www.tehditraining.com/UNHS/](http://www.tehditraining.com/UNHS/)
- c. TEHDI Program Prenatal Webinar: [www.tehditraining.com/prenatal/](http://www.tehditraining.com/prenatal/)
- d. TEHDI Program Outpatient Webinar: <http://www.tehditraining.com/outpatient/>
- e. THSteps Online Provider Education: <http://txhealthsteps.com>
- f. THSteps Newborn Hearing Screening Course:  
<http://txhealthsteps.com/catalog/coursedetails.asp?crid=1703>
- g. Office of Minority Health - Cultural Competency Information:  
<http://minorityhealth.hhs.gov/templates/browse.aspx?lvl=1&lvlID=3>

**Websites with Additional Information on Newborn Hearing**

- a. Texas Connect: [www.callier.utdallas.edu/txc.html](http://www.callier.utdallas.edu/txc.html)
- b. Texas Hands & Voices™: [www.txhandsandvoices.org](http://www.txhandsandvoices.org)
- c. Texas Parent to Parent: [www.txp2p.org](http://www.txp2p.org)
- d. Educational Resource Center on Deafness: <http://www.texasdhhresources.org>
- e. Joint Committee on Infant Hearing: [www.jcih.org](http://www.jcih.org)
- f. March of Dimes: [www.marchofdimes.com](http://www.marchofdimes.com)
- g. My Baby's Hearing: [www.babyhearing.org](http://www.babyhearing.org)
- h. National Newborn Screening and Genetics Resource Center: <http://genes-r-us.uthscsa.edu>
- i. National Initiative for Children's Healthcare Quality, Improving Hearing Screening and Intervention Systems: [http://www.nichq.org/our\\_projects/newborn\\_hearing.html](http://www.nichq.org/our_projects/newborn_hearing.html)





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**Texas Department of  
State Health Services**

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**Department of  
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Texas Early Hearing Detection  
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